

FUEL CELL STACK MONITORING AND SYSTEM CONTROL**Abstract of the Invention**

5 A control method for monitoring a fuel cell
stack in a fuel cell system in which the actual voltage
and actual current from the fuel cell stack are
monitored. A preestablished relationship between voltage
and current over the operating range of the fuel cell is
established. A variance value between the actual
measured voltage and the expected voltage magnitude for a
10 given actual measured current is calculated and compared
with a predetermined allowable variance. An output is
generated if the calculated variance value exceeds the
predetermined variance. The predetermined voltage-
current for the fuel cell is symbolized as a polarization
15 curve at given operating conditions of the fuel cell.
Other polarization curves may be generated and used for
fuel cell stack monitoring based on different operating
pressures, temperatures, hydrogen quantities.